Voyageurs National Park, Accuracy Assessment Metadata

Identification_Information:
Citation:
Citation_Information:
Originator:
U.S. Geological Survey, Upper Midwest
Environmental Sciences Center, 2630 Fanta Reed
Road, La Crosse, Wisconsin 54603
Publication_Date: 2000102
Title:
Accuracy Assessment Spatial Database for the Voyageurs National Park Vegetation Mapping Project
Geospatial_Data_Presentation_Form: database
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Voyageurs NP Vegetation Mapping Project
Publication_Information:
Publication_Place: Denver, Colorado
Publisher: U.S. Geological Survey, Center for Biological Informatics
Other_Citation_Details:
The spatial database was prepared by the U.S. Geological Survey (USGS) Upper Midwest Environmental Sciences Center (UMESC) for the USGS-NPS Vegetation Mapping Program. The Nature Conservancy (TNC) and their affiliates (Association for Biodiversity Information (ABI) and Minnesota County Biological Survey (MCBS) of the Minnesota Department of Natural Resources) provided vegetation field data collection and classification support.
Online_Linkage: http://biology.usgs.gov/npsveg/voya/index.html#accuracy_assessment_info
Larger_Work_Citation:
Citation_Information:
Originator:
U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Publication_Date: 200102
Title:
Voyageurs National Park Vegetation Mapping Project, USGS-NPS Vegetation Mapping Program
Geospatial_Data_Presentation_Form: data information for Voyageurs National Park
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Voyageurs NP Vegetation Mapping Project
Publication_Information:
Publication_Place: Denver, Colorado
Publisher: U.S. Geological Survey, Center for Biological Informatics
Other_Citation_Details:
The Voyageurs National Park Vegetation Mapping Project is part of the USGS-NPS Vegetation Mapping Program, which is managed by the USGS Center for Biological Informatics. The USGS UMESC provided project coordination and compiled all project data for distribution. The UMESC produced all spatial database sets: vegetation spatial database coverage, observation points, vegetation field plots, accuracy assessment, and various other ancillary spatial coverages. The UMESC also performed the accuracy assessment analysis of the vegetation spatial database coverage, prepared final project documentation discussing methods and results, and provided metadata reports. TNC and their affiliates (ABI and MCBS) provided ecological and vegetation support, vegetation field sampling (plot samples and accuracy assessment), data entry, vegetation analysis, methods documentation, and classification development (including community descriptions) based on the U.S. National Vegetation Classification (USNVC). Voyageurs National Park provided staff to assist in field efforts, boat transportation, and knowledge of the local area.

Online_Linkage: http://biology.usgs.gov/npsveg/voya/
Description:
Abstract:
Thematic accuracy requirements for the USGS-NPS Vegetation Mapping Program specify 80% accuracy for each map unit that represents USNVC floristic types. A total of 1288 accuracy assessment (AA) sites were selected at Voyageurs National Park and environs for a thematic AA analysis of the project's vegetation spatial database coverage. The field data were collected during the summers of 1997 and 1998. Data from 1251 sites were used for the AA analysis. Sites not used for the analysis were due to site inaccessibility, insufficient data collected, significant change in the landscape, or unmanageable error in the global positioning system (GPS) coordinate. Regardless of the data usability to the analysis, all 1288 AA sites are represented in the spatial database with explanations. The estimated overall accuracy for the vegetation map units is 82.4%.
Purpose:
AA field data were collected and analyzed to provide a thematic accuracy assessment of the vegetation spatial database coverage for the Voyageurs NP Vegetation Mapping Project, USGS-NPS Vegetation Mapping Program.
Supplemental_Information:
Information within the spatial point coverage includes: ArcInfo default items, Accuracy Assessment Site Number, Map Assessment, Justification Reason, Type of Match, Assessment Comments, Classified Community Name (USNVC Association), Provisional Community Name (Synonym), Community Element Global (CEGL) Code, Map Unit Description Name, Map Unit CEGL Code, Map Unit Code, Field Date, AA Method (site selection), X-Y Coordinates, and 7.5-minute and 3.75-minute Quadrangles. Complete data for each AA site is preserved on hard copy sheets.
Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 199706
Ending_Date: 199809
Currentness_Reference: Range of dates for field data collection
Status:
Progress: Complete
Maintenance_and_Update_Frequency: None planned
Spatial_Domain:
Description_of_Geographic_Extent: Voyageurs National Park and environs
Bounding_Coordinates:
West_Bounding_Coordinate: -93.239
East_Bounding_Coordinate: -92.436
North_Bounding_Coordinate: 48.619
South_Bounding_Coordinate: 48.313
Keywords:
Theme:
Theme_Keyword_Thesaurus: None
Theme_Keyword: Digital Spatial Database
Theme_Keyword: Accuracy Assessment
Theme_Keyword: Vegetation
Theme_Keyword: US National Vegetation Classification
Theme_Keyword: USNVC
Theme_Keyword: National Park
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Voyageurs National Park
Place_Keyword: Minnesota
Place_Keyword: USA
Place_Keyword: Ontario
Place_Keyword: Canada
Place_Keyword: Rainy Lake

Taxonomy:
Keywords/Taxon:
Taxonomic_Keyword_Thesaurus: None
Taxonomic_Keywords: US National Vegetation Classification
Taxonomic_Keywords: USNVC
Taxonomic_Keywords: Vegetation
Taxonomic_Keywords: Plant Community
Taxonomic_Keywords: Association
Taxonomic_System:
Classification_System/Authority:
Classification_System_Citation:
Citation_Information:
Originator:
Anderson, M., P. Bourgeron, M. T. Bryer, R. Crawford, L. Engelking, D. Faber-Langendoen, M. Gallyoun, K. Goodin, D. H. Grossman, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, L. Sneddon, and A. S. Weakley
Publication_Date: 1998
Title:
International classification of ecological communities: terrestrial vegetation of the United States. Volume II. The National Vegetation Classification System: list of types
Geospatial_Data_Presentation_Form: publication
Publication_Information:
Publication_Place: Arlington, Virginia, USA
Publisher: The Nature Conservancy
Other_Citation_Details:
U.S. National Vegetation Classification listing of physiognomic and floristic levels.
Online_Linkage: http://www.natureserve.org/
Online_Linkage: http://www.conserveonline.org/2001/03/p/en/vol1.pdf
Classification_System_Modifications:
The Classified Community Name (USNVC Association), Provisional Community Name (Synonym), and Community Element Global Code were used during the thematic AA analysis of the vegetation spatial dabase coverage, and included within the accuracy assessment spatial database.
Taxonomic_Procedures:
Plot sizes ranged from 20 x 20 m for forests and woodlands to 10 x 10 m for shrublands, herbaceous, and nonvascular vegetation. Plots were placed subjectively in the most representative part of each stand of vegetation. The vegetation was visually divided into strata, and height and cover abundance of each stratum was estimated. Cover of dominant life forms was also estimated to match methods used by the Minnesota Natural Heritage Program survey methods (e.g. total cover of evergreen trees or shrubs was recorded separately from cover of deciduous trees or shrubs (Norm Aaseng, personal communication, 1996). All the species of each stratum were listed (including mosses and lichens) and percent cover estimated using the Braun-Blanquet cover scale. Additional species within the vegetation unit or polygon that occurred outside of sampled plots (generally within 2 m of the plot border) were listed separately. Species that were not identifiable in the field were collected for later identification. Vegetation plot data were entered into the Minnesota Natural Heritage Program's plot database. Species were assigned standardized codes and names based on the PLANTS database (USDA, NRCS 1999). These data were transferred to the PLOTS database developed by the Nature Conservancy (TNC 1997) for final inclusion in this report. For the vegetation analysis, the data were analyzed using the PC-ORD Multivariate Analysis package (McCune and Mefford 1997). The data were analyzed in a series of runs, partitioning the data into smaller sets based on clusters found in the larger data sets, until sufficient resolution was achieved. Multivariate analysis was done using both Non-metric Multidimensional Scaling or NMS (Clarke 1993) and Cluster Analysis. A Bray-Curtis ordination was used as a starting point for the NMS and Ward's Method was used in the Cluster Analysis. These were then reviewed and assessed for perceived environmental gradients (e.g. moisture gradients, peat depth, soil depth, etc.). Indicator Species Analysis (Dufrene and Legendre 1997) was used to identify indicator species and to assess the reassignment of plots into different cluster analysis groups. These groups were compared with the USNVC (Faber-Langendoen et al. 1996, Grossman et al. 1998), as well as to northwestern Ontario types (Sims et al. 1989 and 1997, Harris et al. 1996). Care was taken not to over-emphasize local variations found at Voyageurs compared to more extensive information compiled at the state or regional level. Nevertheless, several types in the USNVC were revised based on these analyses. Plot summaries were

produced for each type.
Taxonomic_Classification:
Taxon_Rank_Name: Kingdom
Taxon_Rank_Value: Plantae
Access_Constraints: None
Use_Constraints:
Those using the database should understand the data and determine for themselves the fitness of the data prior to use. For publication and dissemination, citations or credit should be given to the U.S. Geological Survey Center for Biological Informatics, the National Park Service, and the U.S. Geological Survey Upper Midwest Environmental Sciences Center. The Nature Conservancy and their affiliates (Association for Biodiversity Information and Minnesota County Biological Survey of the Minnesota Department of Natural Resources) should be given credit for ecological support.
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization: U.S. Geological Survey, Center for Biological Informatics
Contact_Address:
Address_Type: mailing and physical address
Address: U.S. Geological Survey, Center for Biological Informatics, MS 302, Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: 303-202-4229
Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Browse_Graphic:
Browse_Graphic_File_Name: http://biology.usgs.gov/npsveg/voya/images/voyaaa.gif
Browse_Graphic_File_Description:
Graphic file showing accuracy assessment site locations. Low resolution for web browser - 1055 x 815 pixel size, 137 KB file size.
Browse_Graphic_File_Type: GIF
Data_Set_Credit: USGS UMESC, TNC and their affiliates (ABI and MCBS)
Native_Data_Set_Environment: UNIX-ARC/INFO

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
The various attributes within the spatial database were reviewed and checked for consistency with their original sources (digital data, data sheets), using a combination of manual and digital means.
Logical_Consistency_Report:
All point features are unique with their own site attribute and X-Y coordinates. There are no duplicate points.
Completeness_Report:
All 1288 AA sites that were selected for field assessment are included in the spatial point coverage. Each of the 1251 successful database points that were used for the assessment analysis are complete with select information about the field site, along with X-Y coordinates with projection in Universal Transversal Mercator (UTM), Zone 15, with datum in North American Datum of 1983 (NAD83). The remaining AA sites not used for the analysis are included in the database with explanations.
Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:

X-Y coordinates of most data locations were collected using a Rockwell Precision Lightweight GPS Receiver (PLGR). A few locations were collected using a Trimble GPS unit. Most points were successfully collected with positional accuracies ranging from +/- 6 to +/- 20 meters.

Lineage:
Methodology:
Methodology_Type: Field
Methodology_Identifier:
Methodology_Keyword_Thesaurus: None
Methodology_Keyword: Accuracy Assessment
Methodology_Description:
Accuracy Assessment Procedures, modified and adapted to unique circumstances with the Voyageurs NP Vegetation Mapping Project. Refer to the
Methodology_Citation:
Citation_Information:
Originator:
Environmental Systems Research Institute, National Center for Geographic Information and Analysis, and The Nature Conservancy
Publication_Date: 199411
Title:
Accuracy Assessment Procedures. NBS/NPS Vegetation Mapping Program
Edition: Final Draft
Geospatial_Data_Presentation_Form: document
Other_Citation_Details:
Accuracy assessment methodology modified and adapted to match unique characteristics and challenges (e.g. remote locations, logistics).
Online_Linkage: http://biology.usgs.gov/npsveg/aa/aa.html
Methodology:
Methodology_Type: Lab
Methodology_Identifier:
Methodology_Keyword_Thesaurus: None
Methodology_Keyword: Accuracy Assessment
Methodology_Description:
Used during AA analysis to compare and tabulate the total number of AA sites and map polygons that were in agreement.
Methodology_Citation:
Citation_Information:
Originator: SAS Institute, Inc.
Publication_Date: 1996
Title: SAS/STAT
Edition: Release 6.12 Edition
Geospatial_Data_Presentation_Form: publication
Publication_Information:
Publication_Place: Cary, NC
Publisher: SAS Institute, Inc.
Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603
Publication_Date: 200102
Title:
Vegetation Spatial Database Coverage for the Voyageurs National Park Vegetation Mapping Project
Geospatial_Data_Presentation_Form: database
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Voyageurs NP Vegetation Mapping Project
Publication_Information:
Publication_Place: Denver, Colorado
Publisher:
U.S. Geological Survey, Center for Biological Informatics
Other_Citation_Details:
The spatial database was prepared by the U.S. Geological Survey (USGS) Upper Midwest Environmental Sciences Center (UMESC) for the USGS-NPS Vegetation Mapping Program. The Nature Conservancy (TNC) and their affiliates (Association for Biodiversity Information (ABI) and Minnesota County Biological Survey (MCBS) of the Minnesota Department of Natural Resources) provided ecological and vegetation classification support.
Online_Linkage: http://biology.usgs.gov/npsveg/voya/
Type_of_Source_Media: digital file
Source_Time_Period_of_Content:
Time_Period_Information:
Multiple_Dates/Times:
Single_Date/Time:
Calendar_Date: 19950927
Single_Date/Time:
Calendar_Date: 19960913
Single_Date/Time:
Calendar_Date: 19960914
Single_Date/Time:
Calendar_Date: 19961003
Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: VOYA Vegetation Spatial Database Coverage
Source_Contribution: None
Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Publication_Date: 2000
Title:
USGS 7.5-minute and 3.75-minute Quadrangle Boundaries of Voyageurs National Park and Environs
Geospatial_Data_Presentation_Form: database
Publication_Information:
Publication_Place: La Crosse, Wisconsin
Publisher:
U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Other_Citation_Details:
7.5-minute and 3.75-minute quadrangle polygon coverage modified from original source for the Voyageurs NP Vegetation Mapping Project. Coverage used to merge quadrangle names into existing spatial database. Projection in Universal Transverse Mercator, Zone 15, and datum in North American Datum of 1983. The coverage is available on the project's CD-ROM.
Source_Scale_Denominator: 12000
Type_of_Source_Media: digital file
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: Unknown
Source_Currentness_Reference: final version
Source_Citation_Abbreviation: VOYA Quadrangle Boundary Coverage
Source_Contribution: None
Source_Information:
Source_Citation:

Citation_Information:
Originator: The Nature Conservancy
Publication_Date: 1997
Title: PLOTS Database System
Edition: Version 1.1
Geospatial_Data_Presentation_Form: database
Publication_Information:
Publication_Place: Arlington, Virginia
Publisher: The Nature Conservancy
Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 199706
Ending_Date: 199809
Source_Currentness_Reference: range of dates for field data collection
Source_Citation_Abbreviation: VOYA AA Observations
Source_Contribution: None
Process_Step:
Process_Description:
SITE SELECTION & FIELD METHODS: The number of sites selected for field assessment depended on how common a map unit was, as outlined in the Program's "Accuracy Assessment Procedures" document (ESRI, NCGI, & TNC 1994). Site locations were stratified as best possible across Voyageurs National Park and environs based on vegetation map data available at the time of field assessment. A total of 1288 sites were selected for assessment. AA field data were collected during the 1997 and 1998 field seasons. During 1997 and early 1998, a digital database of the polygons was not available, thus the AA field team relied on copies of interpreted overlays and aerial photographs to select sites. Data for 552 AA sites were collected using the “overlay” selection method. During 1997, the focus was in the northern one-third of the project area. During early 1998, the focus was in the Rat Root Peatland and western Kabetogama Lake. The AA team chose polygons and then hiked to them to determine the vegetation type. X-Y coordinates were collected with a PLGR and occasionally a Trimble GPS unit, with projection in UTM, Zone 15, and datum in North American Datum of 1927 (NAD27). Canopy structure, dominant species by strata, environmental features, adjacent vegetation types, and rationale for classification were also recorded on data sheets. By the 1998 field season, much of the polygon data had been digitized, enabling the AA teams to have a computer-generated selection of sampling points. Data for 736 AA sites were collected using the “digital” selection method. The majority of the AA sites were selected in the bottom two-thirds of the project area. 3 times the number of sites needed were generated so that 1) point locations falling in close proximity to polygon edges could be eliminated (to reduce location error due to GPS positional error) and 2) remote locations of individual points could be eliminated for logistical matters (staff, time, and cost issues). Hard copy 1:12,000-scale orthophoto quadrangle maps, produced from USGS 3.75-minute digital orthophoto quadrangles (DOQ's), were plotted with vegetation polygons and final selection of AA points overlaying the maps. The orthophoto maps were used to help navigate across terrain and to help confirm proper site location. X-Y coordinates (UTM, Zone 15, NAD83) for each selected AA site were uploaded into PLGR units. Each site was navigated to using PLGR units. Once the site was reached, the vegetation type was determined and additional data (as described with the prior year's data collection) were recorded. All AA data were entered into the PLOTS database (TNC 1997) and reviewed for errors.
Process_Date: 1997-1998
Process_Step:
Process_Description:
ANALYSIS: 1251 of the 1288 AA sites were used for the AA analysis. Some sites could not be reached, others offered insufficient field data to classify the vegetation accurately, and others had unmanageable or missing X-Y coordinates. A couple sites were dropped because of changes in the landscape since date of photograph (tree clearing, lake drawdown). Most of the 1997 and some of the 1998 field X-Y coordinates were collected in NAD27. These were identified and converted to

NAD83. The NAD83 X-Y coordinates, along with selected AA data fields from the PLOTS database, were intersected with the vegetation spatial database coverage, producing an output table to begin a comparison between field classifications and map units of polygons in which the AA X-Y coordinate is located. USNVC associations (using Community Element Global (CEGL) codes) were compared to map unit codes. Mismatches were investigated to discern true errors from false errors. False errors might be a GPS positional error (placing the point into an adjacent polygon on the map than the actual field location), a transition zone offering expressions of more than one vegetation type, or an inclusion area that was less than minimum mapping unit within the map polygon. Assessment results along with explanations were preserved in a digital spreadsheet, and eventually included in the final spatial database. Some map units were grouped together because they represented phases of 1 USNVC association. Likewise, some CEGL codes were grouped together because the map unit represents a USNVC alliance (having 2 or more associations, due to mapping limitations). Once a 1:1 relationship was established between map units and vegetation types, PROC FREQ (SAS 1996) was used to compare and tabulate the total number of AA sites and map polygons that were in agreement. The numbers were transferred into a contingency table, where user's and producer's accuracy percentages were figured for each map unit. Based on the results of this thematic accuracy assessment, the estimated overall accuracy for vegetation map units is 82.4%.

Process_Date: 1999-2000

Process_Step:

Process_Description:

SPATIAL DATABASE: The AA sites were collected in UTM projection, Zone 15. Some sites were collected with datum in NAD27, others in NAD83. The NAD27 X-Y coordinates (most coordinates collected in 1997 and a few collected in 1998) were converted to UTM, Zone 15, NAD83 using ArcInfo (Version 7.2.1 Patch 2). The look up table (LUT) containing the AA analysis data and results (from the ANALYSIS step) was originally created in Microsoft (R) Excel 97 and then converted to dBASE IV format (dbf). The LUT was imported into ArcView (R) GIS (Version 3.1) as an Event Theme using the UTM, Zone 15, NAD83 X-Y coordinates and then converted to a Shapefile coverage. USGS 7.5-minute and 3.75-minute quadrangle boundary names were merged with the AA site Shapefile coverage using ArcView software. The Shapefile coverage was then converted to an ArcInfo coverage using the Shapearc command in ArcInfo (Version 8.0.2). ArcInfo was used to produce the ArcInfo Export file.

Process_Date: 2000

Process_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Kevin D. Hop

Contact_Organization:

U.S. Geological Survey, Upper Midwest Environmental Sciences Center

Contact_Position: Project Team Leader - Biologist (Remote Sensing)

Contact_Address:

Address_Type: mailing and physical address

Address:

U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 575 Lester Avenue

City: Onalaska

State_or_Province: Wisconsin

Postal_Code: 54650

Contact_Address:

Address_Type: organization address

Address: 2630 Fanta Reed Road

City: La Crosse

State_or_Province: Wisconsin

Postal_Code: 54603

Contact_Voice_Telephone: (608) 783-7550 ext 46

Contact_Voice_Telephone: (608) 783-6451 (organization)

Contact_Facsimile_Telephone: (608) 783-8058

Contact_Facsimile_Telephone: (608) 783-6066 (org)

Contact_Electronic_Mail_Address: kevin_hop@usgs.gov

Spatial_Data_Organization_Information:
Indirect_Spatial_Reference:
Voyageurs National Park is located in northern Minnesota, with the northern extent of the Park bordering Ontario, Canada. The northwest corner of the Park is 18 miles east of International Falls, Minnesota. The southwest corner of the Park is adjacent the Boundary Waters Canoe Area, Superior National Forest.
Direct_Spatial_Reference_Method: Point
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Point

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: Universal Transverse Mercator
Universal_Transverse_Mercator:
UTM_Zone_Number: 15
Transverse_Mercator:
Scale_Factor_at_Central_Meridian: 0.9996
Longitude_of_Central_Meridian: -93
Latitude_of_Projection_Origin: 0
False_Easting: 500000
False_Northing: 0
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: coordinate pair
Coordinate_Representation:
Abscissa_Resolution: 1
Ordinate_Resolution: 1
Planar_Distance_Units: meters
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodedic Reference System 80
Semi-major_Axis: 6378137
Denominator_of_Flattening_Ratio: 298.257

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
Items within the spatial database LUT in addition to the ArcInfo default items include: 1) VOYA_AA - Accuracy Assessment site number, 2) ASSESS_MAP - Assessment of the vegetation spatial database coverage based on field assessment data (Correct, Justified Correct, Error, Not Assessed), 3) REASON - Justifying reason for the assessment call to the vegetation spatial database coverage (Match, GPS Error, Ecotone, Inclusion, Mismatch, Dropped), 4) MATCH_TYPE - Type of match or mismatch supporting the REASON Item (Direct Match, Mosaic/Complex Match, Mosaic Match, Ecotone Match, Inclusion Match, True Mismatch, Not Applicable), 5) COMMENT - Explanation of the assessment results to the vegetation spatial database coverage, 6) AA_CLASS - Classified Community Name (USNVC Association) assigned to the field assessment data, 7) AA_PROV - Provisional Community Name assigned to the field assignment data, 8) AA_CEGL - Community Element Global Code (Elcode link to USNVC Association) assigned to the field assessment data, 9) MAP_DESC - Map Unit Description Name of the vegetation spatial database coverage polygon containing the field assessment X-Y coordinate, 10) MAP_CEGL - Community Element Global Code from the vegetation spatial database coverage polygon containing the field assessment X-Y coordinate, 12) AA_DATE - Date accuracy assessment site was collected (yyyymmdd), 13) X_UTM83 - Easting UTM, Zone 15 coordinate in NAD83 14) Y_UTM83 - Northing UTM,

Zone 15 coordinate in NAD83 15) QUAD_24K – USGS 7.5-minute quadrangle (1:24,000-scale) AA site is located, 16) QUAD_12K - USGS 3.75-minute quadrangle (1:12,000-scale) AA site is located.
Entity_and_Attribute_Detail_Citation:
Names, and Community Element Global Codes (AA_CLASS, AA_PROV, AA_CEGL, & MAP_CEGL): Anderson, M., P. Bourgeron, M. T. Bryer, R. Crawford, L. Engelking, D. Faber-Langendoen, M. Gallyoun, K. Goodin, D. H. Grossman, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, L. Sneddon, and A. S. Weakley. 1998. International classification of ecological communities: terrestrial vegetation of the United States. Volume II: The National Vegetation Classification System: list of types. The Nature Conservancy, Arlington, Virginia, USA.
Entity_and_Attribute_Detail_Citation:
Map Unit Description Names, and Map Unit Codes (OBS_DESC & OBS_CODE): Map Units for the Voyageurs National Park Vegetation Mapping Project. March 2000. U.S. Geological Survey Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin.
Entity_and_Attribute_Detail_Citation:
USGS 7.5-minute and 3.75-minute quadrangle names (QUAD_24K & QUAD_12K): USGS 7.5-minute and 3.75-minute Quadrangle Boundary Coverage of Voyageurs National Park and Environs. May 2000. Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin. Note: coverage modified from original source specifically for the Voyageurs NP Vegetation Mapping Project.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization:
U.S. Geological Survey, Center for Biological Informatics
Contact_Address:
Address_Type: mailing and physical address
Address:
U.S. Geological Survey, Center for Biological Informatics, MS 302, Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: 303-202-4229
Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Resource_Description:
Accuracy Assessment Spatial Database for the Voyageurs National Park Vegetation Mapping Project
Distribution_Liability:
Although these data have been processed successfully on a computer system at the U.S. Geological Survey, no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly recommended that these data are directly acquired from a U.S. Geological Survey server, and not indirectly through other sources which may have changed the data in some way. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data. The U.S. Geological Survey shall not be held liable for improper or incorrect use of the data described and/or contained herein.
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: HTML
Digital_Transfer_Option:

Online_Option:
Computer_Contact_Information:
Network_Address:
Network_Resource_Name: http://biology.usgs.gov/npsveg/voya/index.html#accuracy_assessment_info
Fees: None

Metadata_Reference_Information:
Metadata_Date: 200102
Metadata_Review_Date: 20060907
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address:
U.S. Geological Survey, Center for Biological Informatics, MS 302,
Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: (303) 202-4219
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Metadata_Standard_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1: Biological Data Profile, 1999
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Extensions:
Online_Linkage: http://biology.usgs.gov/fgdc.bio/bionwext.txt
Profile_Name: Biological Data Profile FGDC-STD-001.1-1999